those of Peterhead, have long been known and highly appreciated in various public works; the grey, or blue, being used extensively for paving the public streets, as well as for building purposes, and the red granite of Peterhead in the formation of the works at Sheerness Yard. In the construction of Waterloo Bridge, the late Mr. Rennie, though attached to his native granites, was compelled by the difficulty of obtaining a sufficient supply of blocks of the requisite dimensions within the period assigned for the work, and at any reasonable cost, from the quarries in Aberdeenshire, to resort to the quarries in Cornwall, and thus another quality came to be introduced into the metropolis.

The various qualities of the superior granites were, however, brought under public notice when a material was required for the new London Bridge, and after a variety of experiments, of which we may afford some information in a future article, the grey granite from Aberdeen, and the Haytor granite from Devonshire, were decided to be superior, and recommended for that work by the Royal Society, who had undertaken the investigation; the result of which was that one façade of the bridge was executed in Aberdeen granite, and the other in granite from Haytor.

The facilities obtained for the introduction of granite in various ways have, since that period, made it available in many of our public buildings, amongst which may be enumerated the Goldsmiths' and Fishmongers' Halls, where it is used for the plinths, and in the Westminster New Prison; in the latter building the pediment is formed of one block, weighing no less than twenty-nine tons, and other blocks of enormous dimensions were at the same time supplied from the works then existing on Dartmoor. Subsequently, the extensive quarry at Foggin Tor in Devonshire (upon the line of the Plymouth and Dartmoor Railway) was opened by the Haytor Granite Company to an extent which has reduced to certainty the facilities for obtaining blocks of almost any dimension, within a very limited time after order, and at a moderate price. It has been used in many places, but we need only refer to the beautiful Graving Dock at Woolwich, completed by Messrs. Grissel and Peto, under the direction of Messrs. Walker and Burges, (the government engineers), and the Nelson Memorial in Trafalgar-square, by the same contractors, under Mr. Railton, to attest the reputation of this superior granite. It is close grained, a quality for which the northern granites have been esteemed, and it is uniform in texture and appearance. It is also free from the defect of what is termed "horse tooth," so much objected to in the first granites introduced from the Haytor Company's quarries in Devonshire. We could point out many instances of the advantage of using granites in architectural works as well as in those of the engineer. If the plinth of our cathedral of St. Paul had been of granite, how different would have been the appearance it would now present, as well as the curb in which that beautiful railing (the first specimen, by the way, of cast-iron railing) is imbedded. These remarks are applicable to the curbs for railings in all our squares and areas, and the plinths of every public building; nor should it be less regarded as an article of superior durability and beauty for steps (for which it may be obtained of great lengths) at the entrance of public and private buildings.

The late Sir Jeffrey Wyatville employed granite extensively for steps and landings in the entrances at Windsor Castle, and it may be seen in its various qualities at some of our cemeteries, particularly at Kensall Green, where a tomb, now in the course of erection by Charles Oldfield, Esq., for his own family vault, has a base in a single stone 10 feet 6 inches square, and 2 feet thick in the centre, which was procured, after a short notice, from the quarry at Foggin Tor.

The works at this quarry we have recently had an opportunity of visiting; they are now on a magnificent scale (which we shall describe more at length in a future article), and after a vast expenditure to the company, they may be said to be covered with the machinery termed "jemmies," similar to those now employed for fixing the stone at the New Houses of Parliament, and some other public buildings.—so that blocks which present themselves of dimensions suitable to any order which is lodged at the quarry, may be transported immediately from any part of the rock, without waiting for the operation of what may be termed "clearing," and so be forwarded at once to their destination.

It is not our intention at present to enlarge more particularly upon the advantages which present themselves for procuring this material, and the certainty of all the subsequent operations of labour being brought within a limited estimate; but we understand that the contractor, as well as the architect and engineer, will find that such objects can be attained without any of the risks with which the performance of such work was formerly attended. In one other respect the advantage of using granite should not be overlooked: where stones of porous quality are introduced for the facing of public buildings, the damp which is imbibed from the substratum is so completely checked by the use of a granite plinth, that it may be said to be essential to durability. And this plinth, or it may be a mere cill course, could be applied under the direction of a skilful designer with great efficiency as to the general character of the structure. But as to granite architecture, if we may so speak, at which, with other branches of the subject, we have given occasional side glances in the progress of this article, we must reserve ourselves, as we explained to be our intention at setting out. We shall have to shew that granite and every other material has a peculiar expression or idiom, which it is important to be acquainted with for the end of right design, and, in fact, that this understanding of the subject is of greater consequence than many things to which more importance is usually attached.

TRINITY COLLEGE, PERTH.—We understand that the plans for this institution (to be erected on the estate of Cairnies, about eight miles north-west of Perth) have been finally approved of, and that the buildings will be commenced in the spring. The plan is in the English collegiate style of architecture, and does great credit to the talent, taste, and skill of the architect, Mr. Henderson. The buildings, when completed, will form a spacious quadrangle, with a bell-tower and chapel separate. The west front is to contain the entrance gate, and residences for the warden, sub-wardens, and tutors; the north is to contain the class-rooms and dormitory; the east, the hall and library; the south front is to be an open cloister. In the meanwhile, it is proposed to execute only the portion of the building necessary for opening the school department, and the theological part of the institution will not be in operation for some time. The college will contain about 250 boys, who are to reside within the building, as at Eton, and to be otherwise educated as in that great English seminary. The building is to be constructed of a very fine durable stone, which is found in great abundance upon the property, and a quarry of which has been opened, and is already in operation.—*Perth Courier.*

VENTILATION AND WARMING.

MR. DAY'S LECTURE.

On Wednesday night last, we attended a lecture given by Mr. Day, in the Hanover-square Rooms, on the subject of Ventilating and Warming Buildings, Ships, &c. We were greatly pleased to see so large an attendance, and particularly so to find that many ladies were present, proofs of the growing popularity of this important subject. Mr. Day's lecture was plain and practical, and after going over a general sketch or review of his subject, he entered into an exposition of his own particular plans, which he had the good sense and honest candour to avow was one object of his undertaking the task he was engaged in. He did not trouble his auditory with much of theoretical disquisition, but contented himself by adverting to the well-known deductions of those who have philosophised on the subject; such as relate to the quantity of air required for respiration, the changes it undergoes in respiration, and the deleterious effects arising from the frequent inhalation of one atmosphere. He said little on the subject, but his opinion appeared strongly, we may say decidedly, to bear against the practice now advocated and adopted by several of our first engineers of bringing in the air at the top and taking it out at the bottom of the room; in fact, he asserted it could not be done without a waste of power; by which, we suppose, he means also, that it cannot be done with true economy. We dare not say so much, and we think it would puzzle himself to account for some phenomena or atmospheric action relating to natural currents, which the subsequent part of his lectures gave an insight of. However it is not for us to dispute, especially with a gentleman who has so successfully operated in many cases of difficulty. His practical exposition referred to the forced regulation of currents of air, warm or cold according to the season. The supply is introduced at the floor through perforations in it, or in the skirting board, &c., and it is drawn off at the ceiling by the aid of a cylinder and a revolving fan on the principle of the Archimedean screw, kept in motion by a weight in the same way as the old roasting-jack. This fan revolving, carries or draws the air upwards, and the place of the air drawn off is supplied in exact proportion by the cold or warm air-duct under the floor. The experiment was ingeniously illustrated by the glass model of a room, and with smouldering or half-burnt paper placed on the end of the supply tube; a dense smoke was presently seen, like the rising of a mist, all over the floor of the room, slowly and gradually ascending to the ceiling, and passing off by the apertures, above which was in work the ventilating fan.

Of four classes of chimney nuisances he spoke of the remedies.

The 1st arising from an imperfectly formed flue.

2nd. From sluggish draft,

3rd. From downward draft, and,

4th. From gusts of wind acting occasionally.

Various remedies exist for the three first named, such as pertain to the regularity of the supply of air to a room, as well as the alteration of the flue; but the famous specific, we may call it, in plain, honest meaning, for the last described defect, is the wind-guard of Mr. Day's invention.' It was shewn by various experiments to be an instrument perfectly adapted to the end when rightly applied, about which he sketched out 'directions—in fact, that whether the wind blew from this or that quarter, or up or down, It was a beneficial agent in creating a draught for the smoke.

His plan for generating warm air is ingenious; a furnace and boiler, with air flue passing through the latter, communicating at one end with the exterior atmosphere, and at the other delivering it to the duct for warming the building. Mr. Day related that he had applied it with great success at Windsor Castle on the occasion of her Majesty's late visit thither.

We cannot go over more of the ground that Mr. Day occupied, or shew, as he did, the application of his plan to ships, mines, &c., but we can assure our readers that it was a valuable practical lecture. We wish some of Mr. Day's remarks could be borne in mind by many of his brother inventors; about the conclusion he said, with great modesty, that he set up no par-